

Women with pregnancy-related diabetes may be at risk for chronic kidney disease

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Gestational diabetes may predispose women to early-stage kidney damage, a precursor to chronic kidney disease, according to a study by researchers at the National Institutes of Health and other institutions. The study appears in *Diabetes Care*.

Gestational [diabetes](#) occurs only in pregnancy and results when the level of [blood](#) sugar is too high. The condition increases the risk for preterm birth and cesarean delivery, among other complications. Other forms of diabetes that occur outside of pregnancy are known to increase the risk for chronic [kidney](#) disease, in which the kidneys have difficulty filtering wastes from the blood. Few studies have investigated the potential link between [gestational diabetes](#) and [chronic kidney disease](#).

"Our findings suggest that [women](#) who have had gestational diabetes may benefit from periodic checkups to detect early-stage kidney damage and receive subsequent treatment," said the study's senior author, Cuilin Zhang, M.D., M.P.H., Ph.D., of the Epidemiology Branch at the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD).

The researchers found that women who had gestational diabetes were more likely to have a high glomerular filtration rate (GFR), an estimate of how much blood per minute passes through the glomeruli, the tiny filters within kidneys that extract waste from the blood. Many researchers think that a very high GFR can precede the early kidney damage that accompanies pre-diabetes—higher than normal blood sugar levels that are not high enough to be classified as diabetes.

The work was conducted as part of the NICHD-funded Diabetes & Women's Health Study. Researchers collected blood and urine samples and analyzed data from Danish women who had pregnancies from 1996 through 2002. The data included results from tests for diabetes and kidney functioning an average of 13 years later. Of this group, 601 women had gestational diabetes and 613 did not. Women who had gestational diabetes and later developed diabetes were approximately nine times more likely to have an elevated GFR later in life, compared to women who did not have gestational diabetes. Women who only had gestational diabetes had more than triple the risk of an elevated GFR.

The results for the latter group remained consistent even after researchers statistically ruled out other factors that might influence kidney function, such as obesity, blood pressure disorders of pregnancy and the use of certain medications.

Women who had gestational diabetes and later-life diabetes were also more likely to have an elevated urinary albumin to creatinine ratio (UACR), an indication of kidney disease. Women who had only gestational diabetes were not at increased risk for an elevated UACR.

The study could not prove that gestational diabetes causes [kidney damage](#), and the authors noted that more research is needed to confirm their findings.

More information: Rawal, Shruti, et al. Gestational diabetes mellitus and renal function: a prospective study with 9-to-16 year followup after pregnancy. *Diabetes Care*. 2018; doi.org/10.2337/dc17-2629

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